BP EXPLORATION

ARCO Alaska, Inc.

March 4, 1997

Ms. Bonnie Thie
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: Request for administrative revision to EPA PSD permits
for Prudhoe Bay, Alaska facilities;
Short-term emission limits for gas-fired equipment
ARCO Alaska Inc. and BP Exploration (Alaska), Inc.

Dear Ms. Thie:

By this letter, ARCO Alaska Inc.(AAI) and BP Exploration (Alaska), Inc. (BPX) are requesting administrative revisions to four PSD permits issued jointly to AAI and SOHIO (subsequently purchased by BPX) between 1978 and 1981. These permits were for construction of new equipment at Prudhoe Bay, Alaska. Although the Alaska Department of Environmental Conservation (ADEC) was granted authority to implement the PSD permit program in Alaska in 1983, EPA Region 10 has maintained sole authority to amend these federal permits.

As explained to us by Region 10 representatives, ADEC may currently only revise the limits in these permits in response to a new permit application seeking to modify equipment already regulated under a prior EPA permit. Since AAI and BPX are seeking administrative corrections to these permits, and not to construct or modify equipment, this request is being made to the Region and your attention. A meeting has been scheduled on March 10, 1997 with Region 10 to discuss this request.

Background

Under the four PSD permits which we seek to revise, EPA established emission limitations as required under the best available control technology or BACT provisions of the PSD program. With two exceptions, BACT was determined to be simply the use of natural gas as a fuel rather than oil and good combustion practices. This is clearly stated in several places in the EPA preliminary determinations issued at the time in support of the PSD permits. As such, the emission limitation representing BACT was consistently established as the emission factor in AP-42 at that time for the combustion of natural gas in either a turbine or heater.

The two exceptions to this are the BACT emission limitations for NO_x for turbines and large heaters (defined as heaters greater than 43 MMBtu/hr

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capacity). For these units, and only for NO_x, the BACT determination was based on the predicted performance of control technology, either dry combustion controls in turbines or low-NO_x burners in heaters. This request does not seek to revise these two NO_x emission limits associated with predicted control technology performance.

We note that AAI and BPX have installed the gas-fired equipment as required by the BACT determination. In our opinion, the BACT determinations which were based on AP-42 emission factors for the uncontrolled firing of natural gas were primarily a work practice standard, i.e., the use of gas-fired equipment and good combustion practices. The emission limitations which were established were just the best estimates at the time for uncontrolled emissions from the burning of a clean fuel, natural gas.

Requested revisions

Our request is to revise each emission limitation which was based on an AP-42 emission factor to reflect the revised factor in AP-42 today. Over fifteen years have passed since these permits were issued. During this time, as more data and information has become available, AP-42 emission factors have been corrected and up-dated. It is appropriate for our emission limitations to be revised accordingly.

This is an administrative request which will not result in any change in actual emissions and is not a physical or operational change, i.e., modification under PSD or NSR permit regulations. We note that the Region has amended twice in the 1990's (10/23/91 and 2/16/96) PSD permit No. PSD-X80-19 for Alyeska Pipeline Service Co. using a simple administrative process. In those instances, similar circumstances existed where better information was available regarding emission estimates, and there was no change in actual emissions or new construction.

The revisions which we are requesting are in the attached Table 1. The table lists each of the four PSD permits, the current limits in the permits which need to be up-dated, and the correct values to be placed in each permit. All requested values are from the current volume of AP-42 which is the 5th Edition, Supplement B issued October 1996. A few significant items are explained below.

We are requesting that one limit be removed from the permit and not simply revised. This is the emission limit in PSD I for hydrocarbons. Of the four PSD permits issued during this time for Prudhoe Bay facilities, this is the only one under which hydrocarbons were reviewed as a PSD pollutant. The reason this occurred is that potential emissions were based on total hydrocarbons including methane. This is easily seen by comparing the BACT limit in the permit, 42

lb/MMscf hydrocarbon, with AP-42 today. Assuming a heating value of 1000 Btu/scf for natural gas, AP-42 Table 3.2-1 has the following values: 53 lb/MMscf total organic carbon, 51 lb/MMscf methane, and the difference of 2 lb/MMscf for total non-methane organic carbon.

In addition to the current BACT limit regulating primarily non-volatile organic compound or non- VOC emissions, which is contrary to current EPA NSR policies, PSD review would never have been required for this pollutant if only VOC emissions had been estimated. Finally, the primary element of EPA's preliminary determination document for this pollutant was a review of dispersion modeling which demonstrated the National Ambient Air Quality Standard or NAAQS for hydrocarbons would not be exceeded. This NAAQS no longer exists since being determined by EPA to be unnecessary and scientifically indefensible many years ago.

In Table 1, for turbines we have consistently used AP-42 factors from Table 3.2-1 for uncontrolled natural gas prime movers. This is the appropriate table for the turbines at Prudhoe Bay facilities. We have used Table 3.1-1, which is preferred for turbines used for electric generation, only for particulate matter because there is no factor for this pollutant in the other turbine table. None of the turbines constructed under these four permits are used for electric generation purposes. It should be noted that for particulate matter we have consistently combined the two values present in AP-42 for filterable and condensable material to give a total particulate matter estimate.

With respect to heaters, it should be noted that in general the EPA preliminary determinations for these permits recognized that exact heater capacities were not certain at the time of permitting and that the permit was being issued for a total heater capacity rather than specific units. In Table 1, we are requesting in places that a single EPA limit be replaced by two corrected limits to reflect current AP-42 factors as applied to the size of heater actually installed.

Additional request for compliance demonstration clarification

In addition to our requested emission limit revisions, we are requesting a written statement from the Region regarding how compliance is to be demonstrated for the AP-42 based emission limits in Table 1. With the exception of start-up testing for NO_x from selected turbines and heaters, the PSD permits for the Prudhoe facilities required no emission testing or other compliance demonstrations. This was appropriate given the other BACT emission limits required no control technology and represented estimated emissions from relatively low levels of other criteria pollutants. With implementation of new federally mandated programs such as Title V operating permits and the Credible Evidence rule making, there is an increased emphasis on compliance demonstrations and certification. As such, compliance with all emission limits,

including those established from AP-42 and which require no control technology, is now a significant issue which must be addressed.

In this regard, EPA's Office of Enforcement and Compliance Assurance very recently issued a document associated with the final Credible Evidence Rule Revisions. This document is dated 2/12/97 and is titled Response to Comments. On page 56 of this document, EPA responds to a question with a discussion of how compliance with an emission limit established on the basis of a generalized emission factor should be demonstrated. EPA states:

> If an emission limit has been developed and subsequently tested for compliance solely through the use of a generalized emission factor, then the emission factor would constitute the test method for that emission limit. The Agency, however, does not promulgate NSPS in this manner and questions whether such a limit could constitute an enforceable numerical limit since the numerical value is preordained by the emission factor. In reality, such a limit could act more as a work practice restriction, such as a requirement to use a particular type and/or amount of fuel, to which the emission factor is then applied to obtain a value in terms of emissions. The Agency believes that the appropriate action in this type of example would be to clarify the standard in the Part 70 permit so that compliance with the work practice (which acts as the true restriction on emissions) is declared to be compliance with the numerical emission limit.

The criteria present in EPA's discussion above describe exactly the elements surrounding the emission limits which are in our permit revision request. BACT was determined to be the use of natural gas and good combustion practices. The BACT limit is precisely a generalized emission factor (AP-42 values). The EPA permits did not require any compliance testing for these limits, with the exception of start-up testing for NO_x from selected turbines and heaters.

If there must be numerical emission limits, as opposed to only a work practice standard, established as BACT, we ask that at a minimum the Region provide a written statement at this time which states compliance with these limits may be demonstrated by AAI and BPX meeting the work practice requirement of the use of natural gas and good combustion practices. It is important for this issue to be clarified now as we prepare our Title V applications which include compliance certifications and proposed monitoring, recordkeeping, and reporting. Again, this request is only for the emission limits listed in Table 1 and does not include emission limits which required the installation of control technology.

Thank you for your consideration of our request. We look forward to meeting with you and your staff to discuss this request.

Sincerely,

Randy Poteet
Environmental Consultant
ARCO Alaska Inc.

Alison Cooke
Environmental Engineer
BP Exploration (Alaska) Inc.

cc: Jim Baumgartner, ADEC
Al Bohn, ADEC
Bob Hughes, ADEC
Ray Nye, Region 10

Table 1

Permit Number	Current Limit	Requested Limit
PSD-X79-05 ("PSD I")	42 lb/MMscf HC (turbines)	None. See narrative.
	115 lb/MMscf CO (turbines)	0.17 lb/MMBtu, AP-42 Table 3.2-1
PSD-X80-09 ("PSD II")	14 lb/MMscf PM (turbines)	0.042 lb/MMBtu, AP-42 Table 3.1-1
	109 lb/MMscf CO (turbines)	0.17 lb/MMBtu, AP-42 Table 3.2-1
	0.19 lb/MMBtu NO_X (heaters)	140 lb/MMscf, AP-42 Table 1.4-1, heaters 10-100 MMBtu/h
		100 lb/MMscf, AP-42 Table 1.4-1, heaters < 10 MMBtu/h
	0.018 lb/MMBtu CO (heaters)	35 lb/MMscf, AP-42 Table 1.4-1, heaters 10-100 MMBtu/h
		21 lb/MMscf, AP-42 Table 1.4-1, heaters < 10 MMBtu/h
	0.011 lb/MMBtu PM (heaters)	14 lb/MMscf, AP-42 Table 1.4-2, heaters 10-100 MMBtu/h
		11.9 lb/MMscf, AP-42 Table 1.4-2, heaters < 10 MMBtu/h
PSD-X81-01 ("PSD III")	109 lb/MMscf CO (turbines)	0.17 lb/MMBtu, AP-42 Table 3.2-1
	0.018 lb/MMBtu CO (heaters)	40 lb/MMscf, AP-42 Table 1.4-1, heaters >100 MMBtu/h

Table 1, Continued

Permit Number	Current Limit	Requested Limit
PSD-X81-13 ("PSD IV")	109 lb/MMscf CO (turbines)	0.17 lb/MMBtu, AP-42 Table 3.2-1
	0.10 lb/MMBtu NO_X (heaters)	140 lb/MMscf, AP-42 Table 1.4-1, heaters 10-100 MMBtu/h
		100 lb/MMscf, AP-42 Table 1.4-1, heaters < 10 MMBtu/h
	0.018 lb/MMBtu CO (heaters)	35 lb/MMscf, AP-42 Table 1.4-1, heaters 10-100 MMBtu/h
		21 lb/MMscf, AP-42 Table 1.4-1, heaters <10 MMBtu/h